



Fast Facts

Geotube® Dewatering Technology Is Sound Application For Remediation Technology Allows Processing Of Large Volumes While Retaining Impurities And Making Collection and Disposal Easier.

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Environmental remediation projects are often complicated, challenging—and huge. In fact, a number of remediation jobs that should be done have been delayed because there was no economical way of getting them accomplished.

But that could be changing, thanks to a remarkably simple and effective dewatering approach. Geotube® dewatering technology is being used in locations around the world to recover and reclaim property that has been contaminated or requires special management.

A powerful example is the Fox River cleanup now underway in Wisconsin. For more than 80 years, PCBs have been released from paper mills into the waterways of the area. This area of the Lower Fox River contains the largest concentration of paper mills in the world. A massive remediation project is now underway, one that was 25 years in planning. Geotube® dewatering technology was selected as a core approach for the cleanup.

At the Fox River site, Geotube® dewatering technology is part of an operation that involves dredging & dewatering over 750,000 cubic yards of river sediments contaminated with PCBs. Before Geotube® technology was selected, eleven separate tests were conducted with five different types of river sediments varying in organic content. The project involves more



Geotube® containers stacked in a dredging operation at Fox River. Geotube® dewatering containers can be layered like this to increase dewatering volume for the space allotted. For a large project, this can be critical.

than 75,000 linear feet of 80-foot circumference Geotube® containers.

PCB-contaminated sediment is being dredged, circulated through Geotube® containers for dewatering and taken to a permanent landfill for final disposal. Some of the material is so contaminated that it has to be taken to an out-of-state facility for disposal. The process is in full public display; in fact, one of the dredging and dewatering facilities is located just off a major highway and has an “overlook” area where citizens can stand and watch the operation in action.

The project also calls for monitored natural recovery for Green Bay. This technique relies on natural processes to break down, bury, or dilute the PCBs. In some areas where PCB contamination is deep, the first few feet of sediment may be dredged and dewatered, and then a sand cap placed on top of the remaining material to “bury” it and prevent it from causing contamination of the water.

“One value of Geotube® dewatering technology is that it works on both large and small-scale projects, with the same effectiveness,” said Tom



An operator using a mechanical vibrator to break up caking inside the unit and to make dewatering even faster. Note water flowing from the units.

Stephens, Vice President of Operations for TenCate, manufacturer of Geotube® dewatering technology. “You can operate a system with a single Geotube® container, or with dozens, and you can expect consistent results. There is no complicated machinery, and solids are left in a very manageable form.”

He noted this is particularly important for contaminants like PCBs.

“One big point of discussion for many hazardous contaminants is whether or not you do more damage by stirring them up rather than leaving them alone,” he said. “With Geotube® dewatering technology, we think that we’ve offered a way to overcome this issue because the material is contained so well. For any organization facing a difficult cleanup, Geotube® dewatering technology can provide a proven, effective option.”

At Fox River, the technology is working particularly well. For 2005, the first year of full-scale operation, cleanup goals were met. “The same has been true at projects, large and small,” all over the globe: Geotube® dewatering technology is simple and effective to implement,” Stephens said.

A simple test can be used to determine how well the dewatering technology will work with a particular material. A TenCate Geotube representative can work with an organization to administer the test and to provide suggestions as to the best dewatering approaches.

Contact:

Glenn Lundin
1.888.795.0808

glenn_lundin@rtcusa.net
www.geotube.com.



The layout of a dredging operation at Fox River. Geotube® containers are positioned in the center.



3680 Mount Olive Road
Commerce, Georgia 30529
Phone 706.693.2226, ext. 1785.
Toll Free 888.795.0808
Fax 706.693.1896
www.geotube.com

How Geotube Dewatering Technology Works

Dewatering with Geotube® technology is a three-step process.

In the **confinement** stage, the Geotube® container is filled with dredged waste materials. The container’s unique fabric confines the fine grains of the material.

In the **dewatering** phase, excess water simply drains from the Geotube® container. The decanted water is often of a quality that can be reused or returned for processing or to native waterways without additional treatment.

In the final phase, **consolidation**, the solids continue to densify due to desiccation as residual water vapor escapes through the fabric. Volume reduction can be as high as 90 percent.

